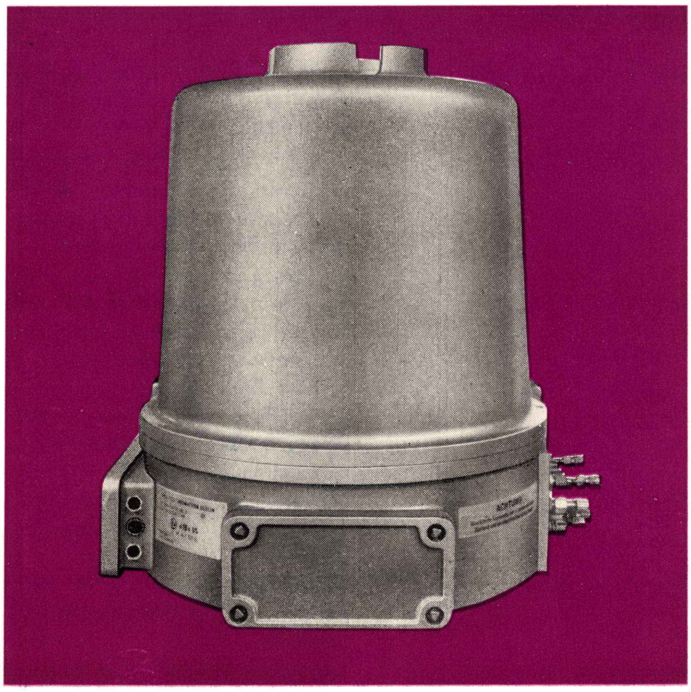
Information

Process - Chromatograph

GBC 2



The process-chromatograph GBC 2 is a process control device for automatic quantitative and qualitative analysis of gaseous and liquid material mixtures which can be evaporated in nondecomposed state. The instrument is directly included in the process circuit and is used for monitoring chemical processes. The entire plant comprises four parts, the analyser, the programing with mains and control device and temperature controlin a mutual casing, the recording instrument, and the gas supply.

The actual analyser in explosion-proof design is thermostated and can be mounted directly in a chemical generation plant.

The temperature in the thermostate space can be adjusted continuously between 40 and 300° C. Apart from the separation columns and the detector the analyser includes an automatic sampling device. As the list of variants shows a separation column change-over device can be built in.

Dosing of the material mixture to be examined ensues in gaseous or liquid state and following evaporation.

Programming, mains and control device and the temperature control are housed in a dust-proof switch casing. According to a given program the programming device controls automatically all required operations for the complete analysis .

The recording instrument is an electronic compensation tape recorder in a dust-proof casing for installation into the control panel. Prior to any analysis cycle a potentiometer built into the electronic compensation tape recorder corrects automatically the zero point of the recording instrument.

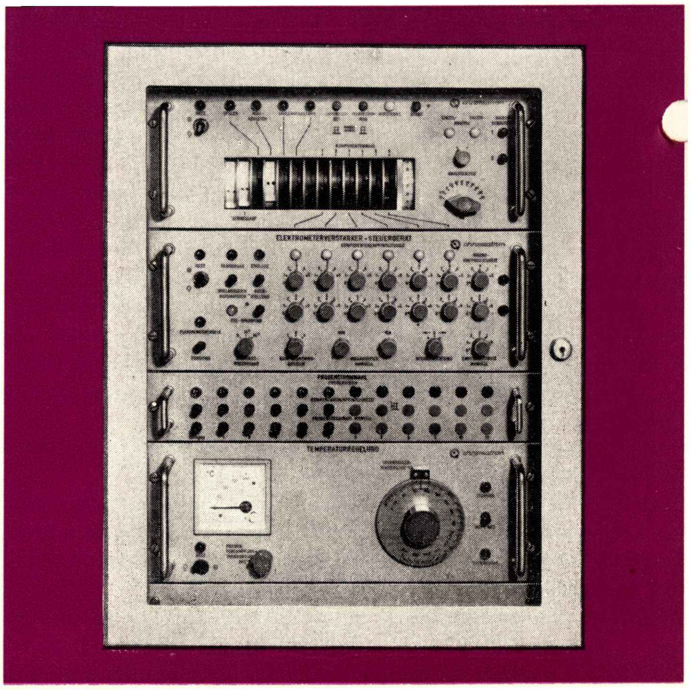
The chromatograms can be given optionally as full chromatograms or as line diagrams.

A built-in component gauging permits adjustment of the sensitivity for the individual components of the material mixture to be examined that with mixtures having heavily differing components well evaluable chromatograms are obtained.

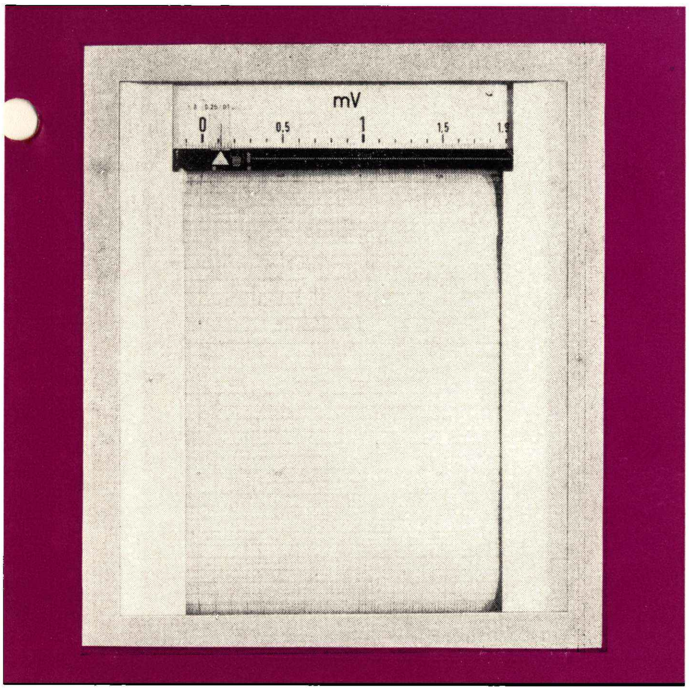
The analyser is connected with the instruments built into the control station by means of screened cables and can be located up to a distance of 50 m with FID-instruments and up to 200 m with WLD-instruments, max., according to the operating conditions.

VEB KOMBINAT MESS-UND REGELUNGSTECHNIK

Technical data:



Explosion protection of the analyser	According to TGL 19 491, ignition group G 1 up to G 5, explosion class I to IVn.
Temperature range	40–300° C for isotherm operation, temperature continuously adjustable, with variants having separation column changing-over device up to max. 150° C.
Temperature control	Electronic two-point control with measuring rheostat as temperature sensor. A thermal return secures high temperature constancy. In case of failure of the device ensues automatic disconnection.
Sampling	ensues fully automatic, motor-controlled, volume of sample as desired.
Sample evaporation	Temperature up to 350° C independent of the thermostate temperature.
Separation columns	Separation columns from steinless steel. Length of wound columns 1.0 m; 2.0 m; 3.0 m; up to 6.0 m. Internal diameter 3,4, or 6 mm.
Carrier gas	H_2, He, N_2, Ar, Ne etc. adjustable by finest needle valve from 0.1 to 20 l/h. Connection of finest needle valve designed for bottled gas fittings.
Detectors	Optionally heat conductivity detector or flame ionization detector.
Program timer	Analysis cycle adjustable up to 80 min. Adjustable control disks for sampling, component sensitivity, measuring point changing-over, automatic zeroing of the measuring circuit before every analysis. Control of a chemical process possible by additional control unit.
Mains and control device for heat conductivety detector	Sensitivity adaptation in 9 steps, pole changer for chromatogram, transistorized mains device Output voltage approx. 9 V, constancy ± 2‰ in case of −15 per cent up to + 10 per cent mains voltage deviation.
Electronic compensation tape recorder	Measuring range 0.1 to 0 to 1.9 mV Recording width 220 mm Paper speed adjustable in 6 steps. With the line diagram the recording paper is moved forward after every component by approx. 2 mm.
Mains connection	220 V, 10 A, 50 cycles
Weigth	Analyser 100 kg Control and programming unit 60 kg Electronic compensation tape recorder 28 kg
Dimensions of instrument	Analyser 550 x 730 x 584 mm Control and programming unit 445 x 570 x 450 mm Electronic compensation tape recorder 375 x 470 x 250 mm



List of deliverable instrument variants

These variants are supplied in two styles – for one or for up to six sample flows.
As special style for the monitoring of air decomposition plants the unit 950.12 with sample preparation device incl. application is supplied.

	910.01	910.11	910.31	910.41	910.51	920.11	920.21	920.31
Gaseous samples	■	■	■			■		
Liquid samples				■	■		■	■
WLD	■	■	■	■	■			
FID						■	■	■
one separat-column,	■			■	■		■	
Pre-column, return flushing		■				■		■
2 separation columns to be changed-over			■					

Hersteller:

VEB CHROMATRON BERLIN
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